IN THE CLAIMS:

Please amend claims 1-2, 4-7, 10, 14-16, 19-24 and 30, and add new claims 31-32 as follows below.

1. (Currently amended) A method for reconstructing data, clocked at a symbol rate, from an analog signal which has been distorted and attenuated by transmission of a transmission link having a cable transfer function, comprising ~~the following steps~~:

~~a)~~ amplifying the signal amplitude of the analog signal that is attenuated by the transmission;

~~b)~~ filtering high-frequency interference ~~frequencies~~ of the analog signal at frequencies above the symbol rate, thereby generating an analog amplified filtered signal;

~~c)~~ discretizing the amplified filtered analog signal by means of an oversampled analog/digital converter to form a digital signal;

~~d)~~ ~~performing~~ carrying out a cable approximation by simulation of the inverse of the cable transfer function on the digital signal by means of a digitally implemented cable approximation filter in order to obtain an equalized signal; and

~~e)~~ interpolating and then low-pass filtering the equalized signal by means of an interpolation and filter unit; and

~~f)~~ decimating the interpolated and filtered signal by means of a decimator which is arranged in the control loop of a phase-locked loop for recovering the original data from the equalized signal.

2. (Currently amended) The method according to Claim 1, wherein the analog/digital converter oversamples the supplied data signal n-times in order to transform low-frequency noise into a higher-frequency spectrum~~, particularly above the symbol rate~~.

3. (Original) The method according to Claim 1, wherein the step of filtering of high-frequency interferers is performed by means of a digital filter which is arranged between the analog/digital converter and the cable approximation filter.

4. (Currently amended) The method according to Claim 1, further comprising the step of reducing of the data rate of the discrete signal by at least a factor of m=2~~, better by a factor of 5-10 or more,~~ in order to obtain a decimated signal.

5. (Currently amended) The method according to Claim 1, further comprising ~~the step of~~ filtering of low-frequency components below a predetermined lower cut-off frequency~~, particularly of direct-current components,~~ by means of a digital filter.

6. (Currently amended) The method according to Claim 5, wherein low-frequency components are filtered before the cable approximation is ~~performed~~ carried out.

7. (Currently amended) The method according to Claim 1, wherein the cable approximation is ~~performed~~ carried out by means of a digital FIR filter.

8. (Original) The method according to Claim 1, wherein amplification of the signal amplitude and the cable approximation is controlled by a digitally implemented equalizer control unit.

9. (Original) The method according to Claim 1, wherein the sets of coefficients required for setting the cable approximation are temporarily stored in a memory device.

10. (Currently amended) The method according to Claim 1, wherein the interpolation and low-pass filtering takes place outside a control loop of ~~a subsequent~~ said phase-locked loop for clock and data recovery.

11. (Original) The method according to Claim 1, wherein a regenerated clock running synchronously with the signal clock is generated by means of the phase-locked loop.

12. (Original) The method according to Claim 1, wherein the decimation is controlled with the aid of a peak detector and of a phase detector.

13. (Original) The method according to Claim 1, wherein the clock control characteristic of the phase-locked loop is adjusted by means of a timing loop filter.

14. (Currently amended) The method according to Claim 11, wherein the recovered data are output synchronously with the regenerated clock.

15. (Currently amended) A device for reconstructing data clocked at a symbol rate from an analog signal which has been distorted and attenuated by transmission of a transmission link having a cable transfer function, comprising ~~the following~~:

~~a)~~ an amplifier for amplifying the signal amplitude of the analog signal attenuated by the transmission;

~~b)~~ a low-pass filter for filtering high-frequency interferers in the analog signal at frequencies above the symbol rate, thereby generating an analog amplified filtered signal;

~~c)~~ an analog-digital converter for discretizing the analog amplified filtered signal, thereby generating a digital signal;

~~d)~~ a digital cable approximation filter having a transfer function which is matched to the inverse of the cable transfer function for generating an essentially equalized, discrete signal based on the digital signal;

~~e)~~ a digital interpolation and filter unit for interpolating and then low-pass filtering the equalized signal[[s]]; and

~~f)~~ a phase-locked loop for recovering the data from the equalized signal, a digital decimator being arranged in a control loop of the phase-locked loop.

16. (Currently amended) The device according to Claim 15, wherein the analog/digital converter oversamples the analog data signal n-times in order to transform low-frequency noise into a high-frequency spectrum~~, particularly above the symbol rate~~.

17. (Original) The device according to Claim 15, wherein following the analog/digital converter, a digital low-pass filter is provided for filtering high-frequency interferers above the symbol rate.

18. (Original) The device according to Claim 17, wherein following the low-pass filter, a decimator is provided in order to obtain a decimated, decimated, discrete signal for a subsequent high-pass filter.

19. (Currently amended) The device according to Claim 15, wherein a high-pass filter is provided for filtering low-frequency components below a predetermined lower cut-off frequency~~, particularly of direct-current components~~.

20. (Currently amended) The device according to Claim 15, wherein a digital cable approximation filter~~, particularly~~ comprises a FIR filter~~, is provided for signal equalization~~.

21. (Currently amended) The device according to Claim 20, wherein an equalizer control unit is provided for controlling the setting of the amplifier and the characteristic of the digital cable approximation filter.

22. (Currently amended) The device according to Claim 21, wherein the sets of coefficients for controlling the digital cable approximation filter are temporarily stored in a memory device.

23. (Currently amended) A device for reconstructing data clocked at a symbol rate from an analog signal which has been distorted and attenuated by transmission of a transmission link having a cable transfer function, comprising ~~the following~~:

~~a)~~ an amplifier receiving an analog signal and generating an amplified analog signal;

~~b)~~ a low-pass filter receiving the amplified analog signal and generating a filtered analog signal;

~~c)~~ an analog/digital converter receiving the amplified filtered analog signal and generating a digital signal;

~~d)~~ a digital cable approximation filter having a transfer function which is matched to the inverse of the cable transfer function receiving the digital signal and generating an equalized digital signal;

~~e)~~ a digital cable interpolation and filter unit receiving the equalized digital signal and generating an interpolated filtered signal; and

~~f)~~ a phase-locked loop receiving the interpolated filtered signal, wherein a digital decimator ~~being~~ is arranged in a control loop of the phase-locked loop.

24. (Currently amended) The device according to Claim 23, wherein the analog/digital converter oversamples the analog data signal n-times in order to transform low-frequency noise into a high-frequency spectrum, ~~particularly~~ above the symbol rate.

25. (Original) The device according to Claim 23, further comprising a digital low-pass filter coupled between said analog/digital converter and said digital cable approximation filter.

26. (Original) The device according to Claim 25, further comprising a decimator coupled between said digital low pass filter and said digital cable approximation filter.

27. (Original) The device according to Claim 25, further comprising a high-pass filter coupled between said decimator and said digital cable approximation filter.

28. (Original) The device according to Claim 25, wherein the digital cable approximation filter is a FIR filter.

29. (Original) The device according to Claim 28, further comprising an equalizer control unit coupled with the amplifier and the cable approximation filter.

30. (Currently amended) The device according to Claim 29, further comprising a memory device for storing ~~the~~ sets of coefficients for controlling the cable approximation filter coupled between the equalizer control unit and the cable approximation filter.

31. (New) The device according to claim 15, wherein the analog/digital converter comprises a sigma delta analog/digital converter.

32. (New) The device according to claim 23, wherein the analog/digital converter comprises a sigma delta analog/digital converter.